

# Fact Sheet



## For Final Significant Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Significant Modification, and shall be considered a supplement to the Fact Sheet corresponding with the Title V operating permit issued on December 29, 2010.

Permit Number: **R30-03900007-2010**  
Application Received: **August 12, 2013**  
Plant Identification Number: **03-54-03900007**  
Permittee: **Bayer CropScience**  
(Powerhouses/Maintenance/WWTU/Laboratory)  
(**Group 1 of 8**)  
Facility Name: **Institute Site**  
Mailing Address: **P.O. Box 1005**  
**Institute, WV 25112**

Permit Action Number: SM01      Revised: March 27, 2014

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Physical Location:	Institute, Kanawha County, West Virginia
UTM Coordinates:	432.0 km Easting • 4,248.3 km Northing • Zone 17
Directions:	The facility is located west of Institute, WV, adjacent to State Route 25 and West Virginia State College.

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### Facility Description

Bayer CropScience is a chemical plant to produces LARVIN brand thiodicarb, which is used as an agricultural chemical. SIC Codes: 2879; 2869

### Group Description

The facility was divided into 8 Title V Permits. They were broken down as follows:  
Group 1 – Powerhouses, Maintenance, Wastewater Treatment Unit, Laboratories  
Group 2 – Rhodimet (This Permit was made inactive on December 23, 2013)  
Group 3 – Carbofuran Unit, Carbosulfan Unit (This Permit was made inactive on December 23, 2013)  
Group 4 – Aldicarb, BPMC, Oxamyl (This Permit was made inactive on December 23, 2013)

Group 5 – Polymers (Note this process was closed in 2004 and no Title V Group 5 Permit was issued)

Group 6 – Larvin Unit

Group 7 – Naphthol Unit, PANA, Jet (This Permit was made inactive on December 23, 2013)

Group 8 – Phosgene, MIC, SEVIN (This Permit was made inactive on December 23, 2013)

### Emissions Summary

This significant modification SM01 incorporates the R13-3111 applicable requirements resulting from the installation of two 80 MM BTU/hr natural gas boilers (Boilers 13 and 14); and the shutdown of Boilers 3, 4, and 5, and all other emission points in Powerhouse #1.

The shutdown of Boilers 3, 4, and 5 will result in a reduction of potential emissions. Previous Condition 4.1.2 limited particulate matter emissions for the boilers to 16.2 lbs/hr each. Previous Condition 4.1.8 limited sulfur dioxide emissions for the boilers to 288 lbs/hr each.

The addition of Boilers 13 and 14 will generate the following emissions for each boiler:

Pollutant	lbs/hr	tpy
CO	6.6	28.9
NO <sub>x</sub>	3.9	17.2
CO <sub>2</sub> equivalents	9,411.8	41,223.5
PM <sub>10</sub>	0.6	2.7
Total VOC	0.5	2.0
Total HAPs	0.2	0.7

### Title V Program Applicability Basis

This facility still has the potential to emit over 100 TPY of criteria pollutants and over 25 TPY of aggregate HAPs. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, and over 25 tons per year of aggregate HAPs, Bayer CropScience's Institute Site is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

### Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

The modification to this facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR2	Particulate Matter emissions
	45CSR10	Sulfur Oxide emissions
	45CSR13	Permits for construction, modification, relocation, etc.
	45CSR16	New Stationary Sources
	45CSR30	Operating permit requirement.

45CSR34  
 40 C.F.R. Part 60, Subpart Dc  
 40 C.F.R. Part 63 Subpart DDDDD NESHAP for Boilers and Process Heaters

Hazardous Air Pollutants  
 Standards of Performance for Small  
 Industrial Steam Generating Units

State Only: N/A

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

### Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit ( <i>if any</i> )
R13-3111	January 16, 2014	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

### Determinations and Justifications

45CSR2 - To Prevent and Control Air Pollution from Combustion of Fuel in indirect heat exchangers.

Boilers 13 and 14 are subject to the opacity requirements of 45CSR§2-3.1. This is given in new Condition 4.1.4. As the boilers use natural gas, 45CSR§2-8.4.b exempts them from opacity monitoring or testing.

The particulate matter limits for the boilers are derived from 45CSR§2-4.1.b for Type "b" fuel burning units. The PM limits were calculated as follows:

Boiler	Heat Input (MMBTU)	Type 'b' Factor	PM Limit (lbs/hr)
#13	80 x	0.09 =	7.2
#14	80 x	0.09 =	7.2

The R13-3111 application shows PM emission calculations of 0.62 lbs/hr for these boilers which is much less than the 45CSR§2-4.1.b limit. Compliance with the particulate matter limits will be shown by Condition 4.1.1.e, which requires that only pipeline natural gas be used as fuel for the boilers.

45CSR10 - To Prevent and Control Air Pollution From the Emission of Sulfur Oxides:

The boilers have Rule 10 applicable SO<sub>2</sub> limits which are based upon 45CSR§10-3.2.c for Type 'b' sources. The SO<sub>2</sub> limits were calculated as follows.

Boiler	Heat Input (MMBTU)		Type 'b' Factor		SO <sub>2</sub> Limit (lbs/hr)
13	80	x	1.6	=	128
14	80	x	1.6	=	128

The R13-3111 application shows SO<sub>2</sub> emission calculations of 0.05 lbs/hr for these boilers. The 45CSR§10-3.2 requirements are given in Condition 4.1.6. Compliance with the SO<sub>2</sub> limits will be shown by Condition 4.1.1.e, which requires that only pipeline natural gas be used as fuel for the boilers. Since these boilers use only natural gas as fuel, 45CSR§10-10.3 exempts these boilers from the Testing, Monitoring, Recordkeeping, and Reporting requirements of 45CSR§10-8.

Other changes made to the Title V Permit as part of this significant modification are summarized below:

1. The emission unit table in Section 1.1 has been revised. Powerhouse #1 which contained Boilers #3, #4, and #5, as well as supporting equipment has been removed. Boilers 13 and 14 have been added to the emission unit table.
2. R13-3111 has been added to Section 1.2 and Condition 3.1.10. Although R13-1308A is still an active permit, the equipment that was permitted has been removed. Therefore, it was removed from Section 1.2 and Condition 3.1.10.
3. All previous Conditions in Section 4.1 have been removed. New Condition 4.1.1 provides specific emission limits for Boilers 13 and 14, as well as the 40 CFR 63 Subpart DDDDD requirements for annual tune-ups from 40 CFR §63.7500(a)(1), §63.7505(a), §63.7510(e), §63.7515(d), §63.7540(a)(10), and Table 3 to Subpart DDDDD of Part 63—Work Practice Standards. There is also a requirement to use pipeline quality natural gas with an annual limit of consumption for each boiler of 692 MM cubic feet. Using only pipeline quality natural gas meets the requirements of 45CSR§2-3.1., 45CSR§2-4.1.b., and 45CSR§10-3.
4. New Condition 4.1.2 requires a one time energy assessment of the facility that includes Boilers 13 and 14. This is a requirement from 40 CFR §63.7500(a)(1), §63.7505(a), and Table 3 of 40 CFR 63 Subpart DDDDD.
5. New Condition 4.1.3 requires the permittee to operate all pollution control equipment related to Boilers 13 and 14 in a manner consistent with safety and good air pollution control practices.
6. All previous Conditions of Section 4.2 have been removed.
7. All previous Conditions of Section 4.3 have been removed.
8. All previous Conditions of Section 4.4 have been removed. New Conditions 4.4.1 through 4.4.3 require the facility to keep records of monitoring, maintenance, and malfunctions of Boilers 13 and 14. New Condition 4.4.4 requires records of concentrations of Carbon Monoxide (CO) in the effluent stream, oxygen in volume percent, as well as a description of any corrective action taken as a part of a tune-up. This is a requirement from 40CFR§§63.7540(a)(10)(vi)(A) and (B). New Condition 4.4.5 requires the permittee to record the hours of operation and amount of natural gas consumed by each boiler. This will show compliance with the natural gas usage requirements and also the hourly and annual emission limits for CO, NO<sub>x</sub>, and CO<sub>2</sub>e of Condition 4.1.1.

9. All previous Conditions of Section 4.5 have been removed. New Condition 4.5.1 requires the permittee to submit annual "Compliance Reports" to the Director with the information specified and on the dates given. This is a requirements from 40CFR§§63.7550(a)-(c).
10. Boilers 13 and 14 are subject to 40CFR60, Subpart Dc. This subpart provides requirements for Boilers built after June 9, 1989 that are between 10 and 100 MMBtu/hr. Since Boilers 13 and 14 burn natural gas only, they are not subject to the SO<sub>2</sub> and PM standards, emission testing, or monitoring. They are only subject to monthly recordkeeping under 40CFR§60.48c(g)(2). New Condition 4.4.5 requires the Permittee to record and maintain records of the amount of natural gas combusted during each calendar month. This meets the requirements of 40CFR§60.48c(g)(2).

### **Non-Applicability Determinations**

The following requirements have been determined not to be applicable to the subject facility due to the following:

1. 40 C.F.R. Part 64 - Compliance Assurance Monitoring (CAM)

Boilers 13 and 14 have been added as a result of this Significant Modification. These boilers are not subject to CAM for the following reason:

40CFR§64.2(a)(2) – The boilers do not use a control device to achieve compliance with an emission limitation or standard.

2. Greenhouse Gas Tailoring Rule

This modification did not trigger a PSD permit. As such, there are no applicable GHG permitting requirements.

### **Request for Variances or Alternatives**

None.

### **Insignificant Activities**

Insignificant emission unit(s) and activities are identified in the Title V application.

### **Comment Period**

Beginning Date: February 7, 2014

Ending Date: March 10, 2014

All written comments should be addressed to the following individual and office:

Mike Egnor  
Title V Permit Writer  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304

### **Procedure for Requesting Public Hearing**

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

**Point of Contact**

Mike Egnor  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Phone: 304/926-0499 ext. 1208 • Fax: 304/926-0478

**Response to Comments (Statement of Basis)**

None